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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/675,289	09/29/2003	William F. Micka	TUC920030045US1	5437

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EXAMINER

TIMBLIN, ROBERT M

ART UNIT	PAPER NUMBER
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2167

DATE MAILED: 03/30/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/675,289	MICKA ET AL.	
	Examiner	Art Unit	
	Robert M. Timblin	2167	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 29 September 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-20 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 29 September 2003 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

This office action corresponds to application 10/675,289.

Claims 1-20 have been examined and are pending prosecution.

Information Disclosure Statement

The information disclosure statements (IDS) submitted on 9/29/2003 and 4/19/2004 are being considered by the examiner.

Drawings

The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they include the following reference character(s) not mentioned in the description: 161/171, and 180-198 of figure 1, 398 and 394 of figure 3, and 398 of figure 4. Corrected drawing sheets in compliance with 37 CFR 1.121(d), or amendment to the specification to add the reference character(s) in the description in compliance with 37 CFR 1.121(b) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be

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notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Beal et al. ("Beal" hereinafter) (US 5,155,845) in view of **Conchran et al.** ("Conchran" hereinafter) (US 2002/0230859).

With respect to claims 1, 7, and 13, **Beal** discloses A method to coordinate interconnected information storage and retrieval systems, wherein each of the information and storage systems is capable of communicating with one or more host computers, comprising the steps of:

providing one or more interconnected information storage and retrieval systems' (figs. 1-4).

'providing a plurality of controllers, wherein one or more of said plurality of controllers is disposed in each of said one or more information storage and

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retrieval systems' as DASD subsystem comprises a plurality of data storage control units (DSC) (col. 2, lines 60-67).

'designating one of said plurality of controllers as a master controller and the remaining controllers as target controllers' as a write request received by one control unit to cause one volume in each set of recording means to write a copy of the received record (abstract). Also, the primary DSC causes a duplicate copy of the data record to be written onto the disk units of the other DSC (col. 4, lines 25-40).

'generating one or more master controller commands by said master controller' as a write command from a host sent to a primary DSC which in turn gets sent to other DSC (col. 4, lines 20-42).

Beal fails to disclose the limitation of

Cochran, however, discloses providing said one or more master controller commands to each of said target controllers, wherein said one or more master controller commands cause said target controllers to adjust the flow of data into and out of each of said one or more information storage and retrieval systems.

'providing said one or more master controller commands to each of said target controllers, wherein said one or more master controller commands cause said target controllers to adjust the flow of data into and out of each of said one or more information storage and retrieval systems' as suspending communications or canceling all accesses including reads and writes to the mirrored volumes (0028 and fig 4).

It would have been obvious to one of ordinary skill in the data processing art at the time of the present invention to combine the teachings of the cited references

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because the teaching of Cochran would have given Beal's system a method so that data at the downstream end of the asynchronous link is not corrupted or unusable for purposes of disaster recovery in the event of lost data centers (0028).

The limitations of claims 7 and 13 have been rejected for the same reasons as this claim.

With respect to claims 2, 8, and 14, Sparks discloses **'one or more master controller commands causing each of said target controllers to stop accepting write operations from said one or more host computers'** as the suspending operation (0028).

With respect to claims 3, 9, and 15, Cochran discloses **'each of said target controllers to form one or more consistency groups'** as maintaining consistency groups (0053).

With respect to claims 4, 10, and 16, Cochran discloses **'causing each of said target controllers to stop providing data to said one or more remote storage locations'** as the suspending operation (0028).

With respect to claims 5, 11, and 17, Beal discloses **'providing a host computer policy command to said master controller'** as a host specifying a multiple copy service

'providing at a first time by said master controller to each target controller one or more first master controller commands' as a sequence of commands (col. 19, lines 34-50).

'providing at a second time by said master controller to each target controller one or more second master controller commands' as a sequence of commands (col. 19, lines 34-50).

With respect to claims 6, 12, and 18, **Beal** discloses **'providing status information to said master controller by each target controller'** as the host is notified of the completion of the execution of the write command (col. 3, lines 30-42).

With respect to claims 19 and 20, the limitations of these claims have been rejected for the same reasons as that of claims 1, 3, and 6, in view of the combination of **Beal/Cochran** since they contain essentially the same subject matter.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

US 5,212,784 Issued to **Sparks** on 5/18/1993. The subject matter disclosed therein is pertinent to that of claims 1-20 (i.e. controllers coupled to multiple storage systems).

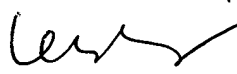
US 20040039888 A1 filed by **LeCrone et al.** on 8/21/2002. The subject matter disclosed therein is pertinent to that of claims 1-20 (i.e. updating primary/target sites).

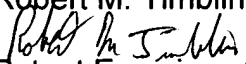
Contact Information

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Robert M. Timblin whose telephone number is 571-272-5627. The examiner can normally be reached on M-F 8:00-4:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, John E. Breene can be reached on 571-272-4107. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


Leslie Wong
Primary Examiner

Robert M. Timblin

Patent Examiner AU-2167

RMT
3/24/2006